MM 200 USER'S MANUAL

(V1.12)

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INTRODUCTION:

Thank you for choosing **Elektralite's MM 200** fixture.
Please read the User Manual carefully and keep it in a safe place after reading it.
MM 200 is very easy to install and use, once you have read the manual. Failure to do so could result in damage to the fixture, which will not be covered under warranty so please take the time to read it.

When you unpack the device you should find inside the box: the fixture, a 120 volt power cable, a 3 pin DMX signal cable, a safety cable and of course this CD. Please check carefully that there is no damage caused by transportation. Should there be any, consult your dealer immediately and **don't** install it.

Features

- **Pan 170° / Tilt 85°**
- **10 colors plus rainbow effect**
- **8 gobos**
- **Strobe : with a frequency of 0~7 flashes per second.**
- **Digital address and function setting**
- **High speed pan & tilt movements**

SAFETY INSTRUCTIONS

A Word of Caution.

Please remember you will be working with 120 volts and you can suffer electric shock from any exposed lives wires. So please be careful at all times and behave wisely.
Now you're **MM 200** left **Elektralite's** factory in perfect condition. In order to maintain this condition and to ensure a safe operation, it is absolutely essential that the installer and user follow the safety instructions and warning notes written in this user manual. Remember any damage caused by disregarding the manual or not reading it, will not be covered by warranty and **Elektralite** (or any of its dealers) will not accept responsibility for any resulting damage or problems.

If the fixture has been exposed to large environmental temperature changes in transit please do not switch it on immediately it is unpacked. There maybe internal condensation. So leave **MM 200** off until it has reached the running temperature of the venue.

Elektralite's MM 200 needs to be grounded. Do **NOT** cut the ground pin or try to use two-core cable to connect it to a 120-volt receptacle. **To be safe and to work properly you must have this fixture grounded.**

A qualified electrician must do any electrical work.

Make sure that the power is only 120 volts. This unit will be damaged if you chose to install it at any other voltage. In an installation it is always best to check the voltage before connecting. And remember never try to connect your **MM 200** live.
Make sure that the power cable is not damaged and never break off the ground pin.

Always disconnect the power, when **MM 200** is not in use or before cleaning it. If you don't, then you are wasting the lamp life. Merely closing the shutter just stops the light output, it does **NOT TURN OFF THE LAMP**.

Never try to disconnect your **MM 200** by pulling out the plug by tugging the cord.

Never touch **MM 200** when powered up. The lamp produces a considerable amount of heat and as a result the housing does get hot. You can be burnt if you touch it.

Never look directly into the lamp source. Sensitive person could suffer an epileptic shock.

Never open **MM 200** and look at the lamp when the lamp is still on or when it is turned off but still hot or even warm. **MM 200** uses a discharge lamp, which is volatile. The lamp can explode at anytime. Use extreme caution and do not expose yourself to it. When replacing the lamp, do not touch any glass part of the lamp. Only handle by the silver terminal ends. Do not over tighten when installing a new lamp. Hand tight is more than enough. PLEASE make sure that power to the fixture is **disconnected** and allow the fixture to **cool down** to room temperature before installing a new lamp.

Please keep out of reach of the general public, children and animals.

GENERAL GUIDELINES

MM 200 is a lighting effect for professional use on stages, in clubs, theatres, and so on.
This fixture should only be operated at the voltage, which stated in the technical specifications in the last page of this manual.
MM 200 is designed for indoor use only.
MM 200 is not designed for permanent operation. Consistent operation breaks may ensure that the device will serve you for a long time without defects.
Do not shake **MM 200**.
Do not use physical force when installing or operating **MM 200**.
While choosing the installation position, please make sure that **MM 200** is not exposed to extreme heat, moisture or dust.
The minimum distance from **MM 200** front lens to any illuminated surface must be more than 3 feet.
Please be careful what surface you shine the light onto; light also has heat and this can affect the illuminated surface. **Elektralite** will not be responsible for fading, color distortion or heat distortion caused by the light beam.
When you hang **MM 200** please use an appropriate safety cable. Please make sure that any hanging equipment, like threaded rod or C clamp is appropriate for the job.

Only operate **MM 200** after you know its functions. Do not permit operation by persons not qualified.

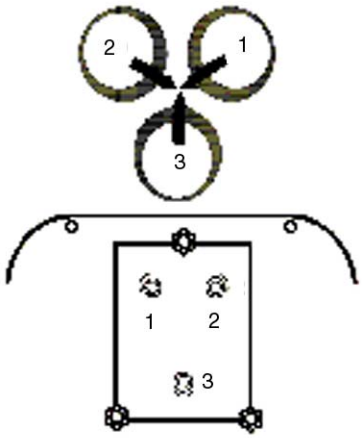
Please use the original packaging if the device is to be transported. [Beware the majority of shipping companies will not accept any liability for damage if the fixture is not shipped in the manufacturer's original box and insert packaging material].

If this fixture is operated in any other way different to that described in this manual, the fixture could be damaged and any warranty would be void.

INSTALLATION INSTRUCTIONS

1. Install the lamp with the fixture unplugged from the electric source.
   Never try to replace a lamp with the fixture still turned on and still hooked up to the electric.
2. If you are replacing the lamp, before opening the housing to replace it,
   let it cool down to room temperature. The lamp burns at very high
   temperatures and it is a discharge lamp. If the lamp has been running then
   expect anything up to half an hour before the housing is cool enough to
   consider even opening up.
3. When installing a new lamp do not touch any glass part of the lamp.
   Always use a clean cloth to handle lamps. The sweat from your fingers will cause the lamp to burn incorrectly and will shorten lamp life. If you do touch the glass, then check in the lamp box for a special wipe to clean the lamp.
4. Only install MSD 200 lamps. Any other lamp is not acceptable.

Procedure:



1. Remove the thumbscrews, which secure the access plate of the lamp and open the housing.
2. Hold the lamp in a clean cloth so as not to touch the lamp with your fingers.
3. Carefully insert the lamp into the lamp holder. Make sure the lamp is firmly in the lamp holder sockets.
4. Replace the lamp housing and tighten up the thumbscrews.
5. You may need to adjust the lamp for peak output. To do this there are 3 screws on the lamp housing.

It's important to remember that the lamp is <u>not</u> a hot restrike type. So you must wait approximately 10 minutes before trying to restrike the lamp.

Warning:- Never ever operate the lamp when it is not inside the fixture. MSD lamps are volatile and could possibly explode. Only turn on the fixture with the lamp securely inside the fixture and the cover plate screwed on.

Switching on the unit

When **MM 200** is switched on, the electronics perform a reset, this function will allow the microprocessor control system to register the positions of all motors. Because the lamp is a metal halide type, when the lamp strikes and "fires up" it can create a certain amount of electrical noise within **MM 200** that may possible disturb the microprocessor. When this happens, **MM 200**'s processor will initiate a second reset to ensure that the motors are registered in their correct position. Once completed, **MM 200** will be ready to operate.

Mounting MM 200

Use an appropriately sized C clamp or threaded rod strong enough for mounting **MM 200**.
The installation must always be secured with a backup safety attachment: namely an appropriate sized safety cable. Don't clamp the safety to the same threaded rod or the same C clamp. That defeats the reason for a safety cable….namely a SEPARATE backup to the primary hanging mechanism.

Never stand directly below the device when mounting, removing or servicing the **MM 200**.

Please make sure **MM 200** has been installed correctly both from a mechanical and electrical aspect before powering up and operating for the first time. Spending a few extra minutes double-checking everything, is better than rushing to turn the fixture on.

Care should be taken to mount **MM 200**. Make sure that **MM 200** is mounted in such a way that no one can touch it directly. For example, when hanging **MM 200** make sure it is high enough up not to hit anyone's head or run into any obstruction in its movement. Always keep **MM 200** away from any inflammable material. Mounting **MM 200** is a job that requires qualified personnel with experience. If the personnel doing the installation lack these qualifications do not use them to do the installation.

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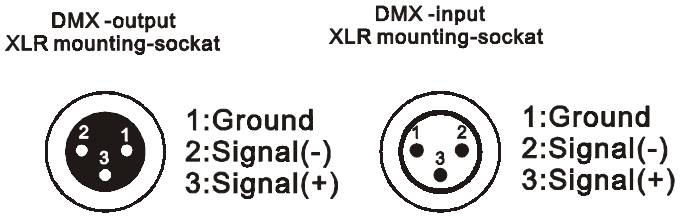
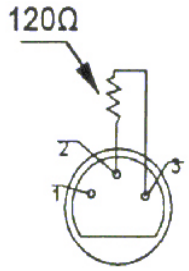
DMX-512 control connection.

Connect the 3 pin XLR cable to the DMX controller and then to the first **MM 200** in the daisy chain. Doing it this way round avoids the pain of rewiring, if you get the wrong end of the cable back at the controller.
Continue wiring from one **MM 200** to another in a daisy chain manner. Never try to Y split cables. Never try to "star wire" a DMX cable run, it will not work.
If additional cable needs to be made up then two-core cable with a screen needs to be purchased. For wiring please see the diagram below.



DMX has a maximum running distance of 330 feet. When long distances are involved then there is a tendency for electrical noise to be evident. In that case, a DMX terminator will be required. The terminator helps prevent corruption of the DMX signal. To make a DMX terminator simply solder a 120 ohm resistor across pins 2 and 3 of an XLR male connector. Then place that connector at the very end of the DMX cable run. In other words, at the last **MM 200**.



It maybe the case that you will need to connect a 5 pin XLR to the 3 pin XLR. In a normal DMX wiring configuration, the 5 pin is soldered identically to the 3 pin. So in the 5 pin

1: Ground
2: Signal (-)
3: Signal (+)

Pins 4 and 5 are not used. Be very sure you read the pin numbering on the connector when you solder up the connector. Do not just wire up the three pins to the left or right because the male and female connector has the pins on different “sides” of the connector! Read the pin numbers.

Projector DMX start address selection

In order for the controller like **Elektralite’s CP10xt** to control each **MM 200** it has to know where it is in the daisy chain of DMX. To do this all **MM 200**s have to be set to a start address. To understand the concept of a starter address we also have to understand the concept of channels and the features those channels have.
MM 200 uses 4 channels of DMX. Those channels control the features of **MM 200**. They are as follows:-

CHANNEL 1 : select one of the 10 colors, color cycle or rainbow effect
CHANNEL 2 : select one of the 8 gobo’s.
CHANNEL 3 : Pan movement (max. 170°)
CHANNEL 4 : Tilt movement (max. 85°)

So if we start with the first **MM 200** its first channel is 1. So we refer to it as having a starter address of 1.
The second **MM 200** will then have its first channel or starter address at channel 5.
The third **MM 200** will then have its first channel or starter address at channel 9, and so on. Now if you want two **MM 200s** to be always the same in color, movement and so on then you can set both of them to the same address. In this way you can create groups of fixtures having the same effects happen at the same time. There is no restriction on how many **MM 200s** you have on the same starter address

If you just bought 4 x MM 200 and it came with an Elektralite CP10xt, the starter addresses in the CP10xt have already been set. All you have to do is set the starter addresses on MM 200s.

If you have another controller, then you will have to set it’s starter addresses for each **MM 200** before you will be able to control any **MM 200.**

Tips & Tricks

1. If you change the address on **MM 200** it may appear not to have accepted that address. Turn **MM 200** off wait until the lamp cools down (remember it is not a hot re-strike lamp) and then turn it back on again.
2. When you turn on **MM 200**, if there is no data getting to it, then run a cable directly from the controller to the fixture and test it directly. Do not have any other fixture or cable in line to the **MM200** you cannot operate.

NON DMX FUNCTIONS.

There are two functions, which are non-DMX, and which can be activated using the DIP switches. They are marked on the dipswitches.

1. Automatic mode of operation. Turn this dipswitch on to activate the auto mode.
2. Focus function. When this dipswitch is on, the shutter will open and the color wheel will also be in open position. This allows for easy focusing of the front lens without recourse to a controller. Note: **MM 200** will not respond to any DMX control when in this mode.

CLEANING AND MAINTENANCE.

1. All bolts and safety chains must be tightly screwed into position and have no corrosion.
2. Regularly check all mechanic moving parts for wear. They must rotate freely and in no way stick or squeak.
3. Regularly look for wear and tear on the 120 volt input cable and the DMX signal cable.
4. Clean **MM 200** at frequent intervals. Use a moist lint free cloth. Do not use a wet cloth or a cloth with alcohol or solvents added. Clean the objective lens and the reflector weekly if in a smoky environment or if fog machines are being used. Do not forget to turn off **MM 200** and allow to cool down to room temperature before opening. Watch that you don't touch the lamp. If you do then you'll have to remove it and clean it.
5. Color and gobo wheel may require cleaning as often as once a month if in a smoky environment or if fog machines are being used.

TECHNICAL SPECIFICATIONS

Power supply : 120VAC, 60 Hz.
Power consumption : MAX. 400 VA
Lamp : MSD200 GY9.5 socket, Metal Halide.
Motors: 4 Micro Motors
Packing dimensions : 58 x 39 x 44cm (23"x 15.5"x 11.5")
Net weight :13.5 Kilos (30 pounds)
Gross weight: □16 Kilos (35.2 pounds)

[Errors and omissions for all information given in this manual is excepted.
All information is subject to change without prior notice].

Registering your MM 200

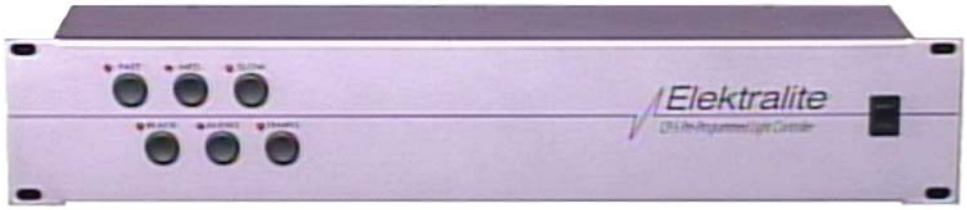
It is very important that you register your **MM 200** so that you can receive any updates and have your warranty in operation. To register please fill in the warranty form which can be found at www.myelektralite.com

[Manual Updates. V1.12 = V1.10 + insert on 3 to 5 pin DMX XLRs].

Other Elektralite Products include :

[Also check out our website at www.myelektralite.com]

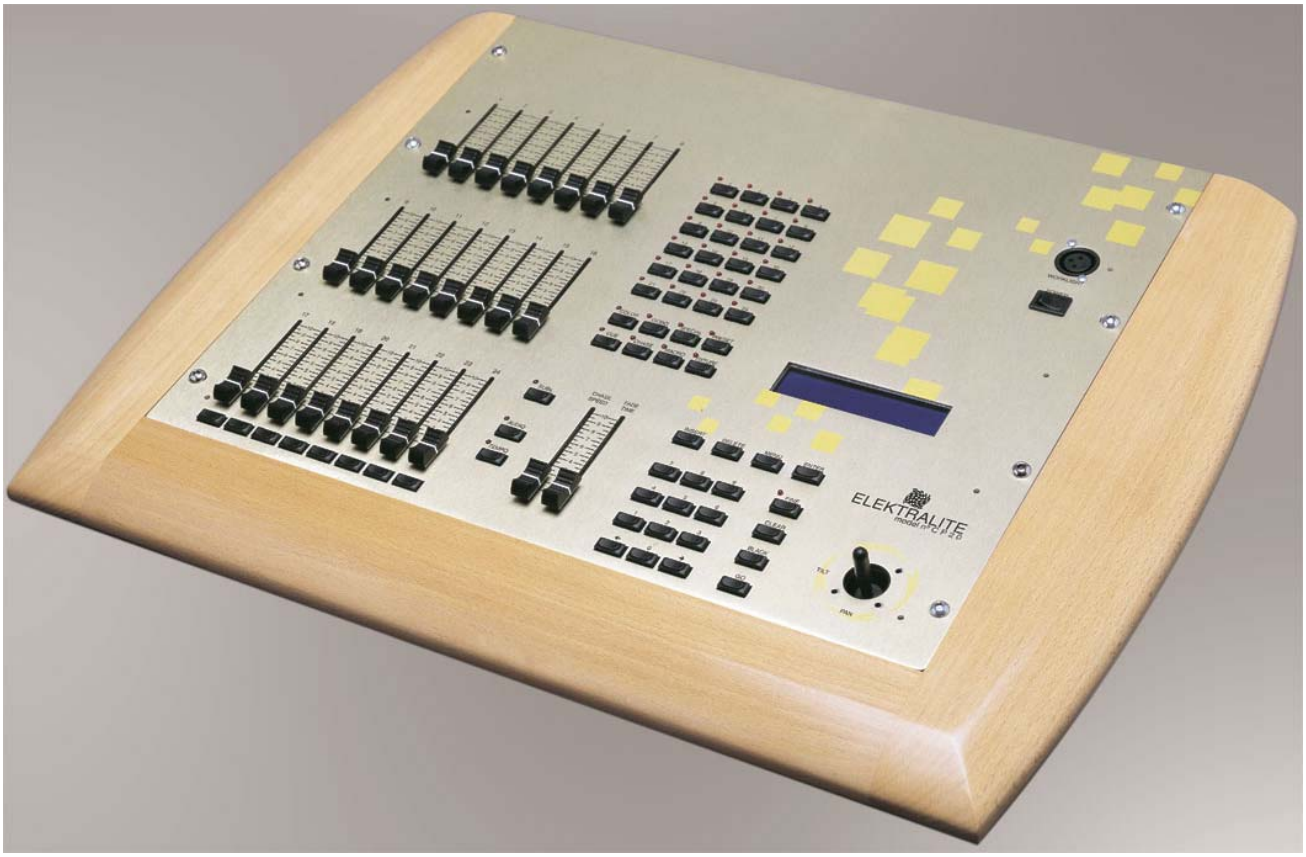
CP-3 Controller.



CP-10xt Controller.

CP-16 /24 Controller.

CP-20xt Controller.



TurboFog + Fog Machine.